

### **DETAILED ACTION**

1. Applicants' amendment filed November 12, 2007 is acknowledged. Claims 99-101 are amended. Claims 15-36 and 49-53 are deleted. Now, Claims 1-14, 37-48 and 54-101 are pending.

2. Claim rejection(s) under 35 USC 102 and 103 in the previous Office Action (Paper No. 070707) is/are removed.

### ***Examiner's Amendment***

3. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

4. Authorization for this examiner's amendment was given in a telephone interview with Ms. Patricia Folkins on February 8, 2008.

The application has been amended as follows:

In Claim 100 (line 1), replace "claim 100" with -- claim 99 --.

*Allowable Subject Matter*

5. Claims 1-14, 37-48 and 54-101 are allowed.

6. The following is an examiner's statement of reasons for allowance:

The present claims are allowable for at least the following reason(s) over the closest references: Nakanishi688 (US 5 009 688) and Nakanishi875 (US 5 624 875).

Nakanishi688 discloses a method of preparing siliceous materials by hydrolyzing/condensing a silicone alkoxide in the presence of a water-soluble organic polymer such as polyethylene oxide, etc. undergoing phase separation. (col. 2, lines 7-43 and Examples) Nakanishi688 is silent on the use of polyol silane precursor. Applicants provide a declaration under 37 CFR 1.132 filed on November 12, 2007 to clarify the confusing results demonstrated Figure 5 and Table 1 in Exhibit D as indicated in paragraph 10 of the previous Office action (Paper No. 070707) and the Figure 5 and Table 1 is **updated** in Exhibit A of the current declaration. Notably, Applicants confirm that the small amount of the macropores in Sample 2 (comparative) is “a consequence of **cracking** during drying, rather than the presence of real macropores”. See paragraph 7 of the current declaration. Since Applicants show the unexpected advantages of utilizing an organic polyol

silane precursor for making **bimodal meso/macroporous** siliceous materials, Nakanishi688 does not teach or fairly suggest the claimed method set forth in Claims 1, 41 and 54 and the claimed chromatographic column set forth in Claim 56; where an **organic polyol silane precursor** is hydrolyzed/condensed in the presence of a **water-soluble polymer**. Furthermore, Nakanishi688 does not teach or fairly suggest the claimed method set forth in Claims 39, 41, 54 and 57, and the claimed chromatographic column set forth in Claim 56; where an **organic polyol silane precursor** is hydrolyzed/condensed in the presence of an alkyltrialkoxysilane represented by **Formula I**.

Nakanishi875 discloses a method for producing chromatography column, (bio)sensor, (bio)reactor by hydrolyse/condense a silicone alkoxide such as tetramethoxysilane in the presence of a water soluble polymer such as poly(ethylene oxide), etc. undergoing phase separation. (col. 3, lines 12-45, col. 4, lines 3-47, col. 5, lines 42-63, col. 6, lines 22-36 and Examples) Nakanishi875 is silent on the use of polyol silane precursor. For the similar reason, *supra*, Nakanishi875 does not teach or fairly suggest the claimed invention.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should

preferably accompany the issue fee. Such submissions should be clearly labeled

"Comments on Statement of Reasons for Allowance."

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kuo-Liang Peng whose telephone number is (571) 272-1091. The examiner can normally be reached on Monday-Friday from 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jim Seidleck, can be reached on (571) 272-1078. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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/Kuo-Liang Peng/  
Primary Examiner, Art Unit 1796